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**FOR CRF SUBMISSION AND PATENTIN SOFTWARE QUESTIONS, PLEASE CONTACT MARK SPENCER, TELEPHONE: 571-272-2510; FAX: 571-273-0221**

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**<http://www.uspto.gov/web/offices/pac/checker/chkrnote.htm>**

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1. EFS-Bio (<<http://www.uspto.gov/efb/efs/downloads/documents.htm>> , EFS Submission User Manual - ePAVE)
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Revised 01/24/05



IFWO

RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/776,521A

DATE: 02/14/2005

TIME: 07:39:35

Input Set : E:\SEQLIST (8449-405 Amended).TXT

Output Set: N:\CRF4\02142005\J776521A.raw

4 <110> APPLICANT: Fletchner, Jessica  
5 Prince-Cohane, Kenya  
6 Mehta, Sunil  
7 Slusarewicz, Paul  
8 Andjelic, Sofija  
9 Barber, Brian  
11 <120> TITLE OF INVENTION: HEAT SHOCK PROTEIN-BASED VACCINES AND  
12 IMMUNOTHERAPIES  
14 <130> FILE REFERENCE: 8449-405-999  
16 <140> CURRENT APPLICATION NUMBER: 10/776,521A  
17 <141> CURRENT FILING DATE: 2004-02-12  
19 <150> PRIOR APPLICATION NUMBER: 60/503,417  
20 <151> PRIOR FILING DATE: 2003-09-16  
22 <150> PRIOR APPLICATION NUMBER: 60/463,746  
23 <151> PRIOR FILING DATE: 2003-04-18  
25 <150> PRIOR APPLICATION NUMBER: 60/462,469  
26 <151> PRIOR FILING DATE: 2003-04-11  
28 <150> PRIOR APPLICATION NUMBER: 60/447,142  
29 <151> PRIOR FILING DATE: 2003-02-13  
31 <160> NUMBER OF SEQ ID NOS: 419  
33 <170> SOFTWARE: FastSEQ for Windows Version 4.0  
35 <210> SEQ ID NO: 1  
36 <211> LENGTH: 4  
37 <212> TYPE: PRT  
38 <213> ORGANISM: Malaria  
40 <400> SEQUENCE: 1  
41 Asn Ala Asn Pro  
42 1  
45 <210> SEQ ID NO: 2  
46 <211> LENGTH: 9  
47 <212> TYPE: PRT  
48 <213> ORGANISM: Unknown  
50 <220> FEATURE:  
51 <223> OTHER INFORMATION: HLA-A2 peptide binding motif  
W--> 53 <221> NAME/KEY: VARIANT  
54 <222> LOCATION: 2  
55 <223> OTHER INFORMATION: Xaa = Leu or Met  
W--> 57 <221> VARIANT  
58 <222> LOCATION: 6  
59 <223> OTHER INFORMATION: Xaa = Val or Ile or Leu or Thr  
W--> 61 <221> VARIANT  
62 <222> LOCATION: 9  
63 <223> OTHER INFORMATION: Xaa = Val or Leu

(pg.6)  
Does Not Comply  
Corrected Diskette Needed  
(pg.2) ←

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W--> 65 <221> VARIANT  
66 <222> LOCATION: 1, 3 , 4, 5, 7, 8  
67 <223> OTHER INFORMATION: Xaa = any amino acid  
W--> 69 <400> 2  
W--> 70 Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
71 1 5  
74 <210> SEQ ID NO: 3  
75 <211> LENGTH: 9  
76 <212> TYPE: PRT  
77 <213> ORGANISM: Unknown  
79 <220> FEATURE:  
80 <223> OTHER INFORMATION: HLA-A2 peptide binding motif  
W--> 82 <221> NAME/KEY: VARIANT  
83 <222> LOCATION: 2  
84 <223> OTHER INFORMATION: Xaa = Leu or Met  
W--> 86 <221> VARIANT  
87 <222> LOCATION: 1, 3, 4, 5, 6, 7, 8  
88 <223> OTHER INFORMATION: Xaa = any amino acid  
W--> 90 <400> 3  
W--> 91 Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Val  
92 1 5  
95 <210> SEQ ID NO: 4  
96 <211> LENGTH: 8  
97 <212> TYPE: PRT  
98 <213> ORGANISM: Unknown  
100 <220> FEATURE:  
101 <223> OTHER INFORMATION: HLA-A2 peptide binding motif  
W--> 103 <221> NAME/KEY: VARIANT  
104 <222> LOCATION: 2  
105 <223> OTHER INFORMATION: Xaa = Val or Gln  
W--> 107 <221> VARIANT  
108 <222> LOCATION: 1, 3, 4, 5, 6, 7, 8  
109 <223> OTHER INFORMATION: Xaa = any amino acid  
W--> 111 <400> 4  
W--> 112 Xaa Xaa Xaa Xaa Xaa Xaa Xaa Leu  
113 1 5  
116 <210> SEQ ID NO: 5  
117 <211> LENGTH: 5  
118 <212> TYPE: PRT  
119 <213> ORGANISM: Unknown  
121 <220> FEATURE:  
122 <223> OTHER INFORMATION: HLA-DR peptide binding motif  
124 <400> SEQUENCE: 5  
125 Gln Lys Arg Ala Ala  
126 1 5  
129 <210> SEQ ID NO: 6  
130 <211> LENGTH: 5  
131 <212> TYPE: PRT  
132 <213> ORGANISM: Unknown

- There is no "Xaa" at this location.

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134 <220> FEATURE:  
135 <223> OTHER INFORMATION: HLA-DR peptide binding motif  
137 <400> SEQUENCE: 6  
138 Arg Arg Arg Ala Ala  
139 1 5  
142 <210> SEQ ID NO: 7  
143 <211> LENGTH: 7  
144 <212> TYPE: PRT  
145 <213> ORGANISM: Unknown  
147 <220> FEATURE:  
148 <223> OTHER INFORMATION: motif in heptamiric region recognized by heat  
149 shock protein  
W--> 151 <221> NAME/KEY: VARIANT  
152 <222> LOCATION: 2  
153 <223> OTHER INFORMATION: Xaa = Trp or any amino acid  
W--> 155 <221> VARIANT  
156 <222> LOCATION: 1, 3, 5, 7  
157 <223> OTHER INFORMATION: Xaa = hydrophobic amino acid residues  
W--> 159 <221> VARIANT  
160 <222> LOCATION: 4, 6  
161 <223> OTHER INFORMATION: Xaa = any amino acid  
W--> 163 <400> 7  
W--> 164 Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
165 1 5  
168 <210> SEQ ID NO: 8  
169 <211> LENGTH: 7  
170 <212> TYPE: PRT  
171 <213> ORGANISM: Unknown  
173 <220> FEATURE:  
174 <223> OTHER INFORMATION: motif in heptamiric region recognized by heat  
175 shock protein  
W--> 177 <221> NAME/KEY: VARIANT  
178 <222> LOCATION: 2  
179 <223> OTHER INFORMATION: Xaa = Trp or any amino acid  
W--> 181 <221> VARIANT  
182 <222> LOCATION: 1, 3, 5, 7,  
183 <223> OTHER INFORMATION: Xaa = hydrophobic amino acid residue, particularly  
184 tryptophan, leucine or phenylalanine  
W--> 186 <221> VARIANT  
187 <222> LOCATION: 4, 6  
188 <223> OTHER INFORMATION: Xaa = any amino acid  
W--> 190 <400> 8  
W--> 191 Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
192 1 5  
195 <210> SEQ ID NO: 9  
196 <211> LENGTH: 4  
197 <212> TYPE: PRT  
198 <213> ORGANISM: Artificial Sequence  
200 <220> FEATURE:

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201 <223> OTHER INFORMATION: mutated heat shock protei peptide  
203 <400> SEQUENCE: 9  
204 Lys Asp Glu Leu  
205 1  
207 <210> SEQ ID NO: 10  
208 <211> LENGTH: 10  
209 <212> TYPE: PRT  
210 <213> ORGANISM: Adeno Virus  
212 <400> SEQUENCE: 10  
213 Ser Gly Pro Ser Asn Thr Pro Pro Glu Ile  
214 1 5 10  
217 <210> SEQ ID NO: 11  
218 <211> LENGTH: 11  
219 <212> TYPE: PRT  
220 <213> ORGANISM: Lymphocytic Choriomeningitis Virus (LCMV)  
222 <400> SEQUENCE: 11  
223 Ser Gly Val Glu Asn Pro Gly Gly Tyr Cys Leu  
224 1 5 10  
227 <210> SEQ ID NO: 12  
228 <211> LENGTH: 10  
229 <212> TYPE: PRT  
230 <213> ORGANISM: Lymphocytic Choriomeningitis Virus (LCMV)  
232 <400> SEQUENCE: 12  
233 Lys Ala Val Tyr Asn Phe Ala Thr Cys Gly  
234 1 5 10  
237 <210> SEQ ID NO: 13  
238 <211> LENGTH: 9  
239 <212> TYPE: PRT  
240 <213> ORGANISM: Lymphocytic Choriomeningitis Virus (LCMV)  
242 <400> SEQUENCE: 13  
243 Arg Pro Gln Ala Ser Gly Val Tyr Met  
244 1 5  
247 <210> SEQ ID NO: 14  
248 <211> LENGTH: 9  
249 <212> TYPE: PRT  
250 <213> ORGANISM: Lymphocytic Choriomeningitis Virus (LCMV)  
252 <400> SEQUENCE: 14  
253 Phe Gln Pro Gln Asn Gly Gln Phe Ile  
254 1 5  
257 <210> SEQ ID NO: 15  
258 <211> LENGTH: 9  
259 <212> TYPE: PRT  
260 <213> ORGANISM: Influenza Virus  
262 <400> SEQUENCE: 15  
263 Ile Glu Gly Gly Trp Thr Gly Met Ile  
264 1 5  
267 <210> SEQ ID NO: 16  
268 <211> LENGTH: 10  
269 <212> TYPE: PRT

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Input Set : E:\SEQLIST (8449-405 Amended).TXT

Output Set: N:\CRF4\02142005\J776521A.raw

270 <213> ORGANISM: Influenza Virus  
272 <400> SEQUENCE: 16  
273 Thr Tyr Val Ser Val Ser Thr Ser Thr Leu  
274 1 5 10  
277 <210> SEQ ID NO: 17  
278 <211> LENGTH: 8  
279 <212> TYPE: PRT  
280 <213> ORGANISM: Influenza Virus  
282 <400> SEQUENCE: 17  
283 Phe Glu Ala Asn Gly Asn Leu Ile  
284 1 5  
287 <210> SEQ ID NO: 18  
288 <211> LENGTH: 9  
289 <212> TYPE: PRT  
290 <213> ORGANISM: Influenza Virus  
292 <400> SEQUENCE: 18  
293 Ile Tyr Ser Thr Val Ala Ser Ser Leu  
294 1 5  
297 <210> SEQ ID NO: 19  
298 <211> LENGTH: 9  
299 <212> TYPE: PRT  
300 <213> ORGANISM: Influenza Virus  
302 <400> SEQUENCE: 19  
303 Thr Tyr Gln Arg Thr Arg Ala Leu Val  
304 1 5  
307 <210> SEQ ID NO: 20  
308 <211> LENGTH: 9  
309 <212> TYPE: PRT  
310 <213> ORGANISM: Influenza Virus  
312 <400> SEQUENCE: 20  
313 Cys Thr Glu Leu Lys Leu Ser Asp Tyr  
314 1 5  
317 <210> SEQ ID NO: 21  
318 <211> LENGTH: 8  
319 <212> TYPE: PRT  
320 <213> ORGANISM: Influenza Virus  
322 <400> SEQUENCE: 21  
323 Ser Asp Tyr Glu Gly Arg Leu Ile  
324 1 5  
327 <210> SEQ ID NO: 22  
328 <211> LENGTH: 9  
329 <212> TYPE: PRT  
330 <213> ORGANISM: Influenza Virus  
332 <400> SEQUENCE: 22  
333 Glu Glu Gly Ala Ile Val Gly Glu Ile  
334 1 5  
337 <210> SEQ ID NO: 23  
338 <211> LENGTH: 9  
339 <212> TYPE: PRT

RAW SEQUENCE LISTING ERROR SUMMARY  
PATENT APPLICATION: US/10/776,521A

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Input Set : E:\SEQLIST (8449-405 Amended).TXT  
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Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:2; Xaa Pos. 1,2,3,4,5,6,7,8,9  
Seq#:3; Xaa Pos. 1,2,3,4,5,6,7,8  
Seq#:4; Xaa Pos. 1,2,3,4,5,6,7  
Seq#:7; Xaa Pos. 1,2,3,4,5,6,7  
Seq#:8; Xaa Pos. 1,2,3,4,5,6,7  
Seq#:295; Xaa Pos. 1  
Seq#:296; Xaa Pos. 3  
Seq#:301; Xaa Pos. 2,6  
Seq#:348; Xaa Pos. 5

VERIFICATION SUMMARY

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Input Set : E:\SEQLIST (8449-405 Amended).TXT

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L:53 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!  
 L:57 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:2  
 L:61 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:2  
 L:65 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:2  
 L:69 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:2  
 L:70 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:2 after pos.:0  
 L:82 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!  
 L:86 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:3  
 L:90 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:3  
 L:91 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3 after pos.:0  
 L:103 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!  
 L:107 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:4  
 L:111 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:4  
 L:112 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:4 after pos.:0  
 L:151 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!  
 L:155 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:7  
 L:159 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:7  
 L:163 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:7  
 L:164 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:7 after pos.:0  
 L:177 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!  
 L:181 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:8  
 L:186 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:8  
 L:190 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:8  
 L:191 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:8 after pos.:0  
 L:3717 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!  
 L:3721 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:295  
 L:3722 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:295 after pos.:0  
 L:3735 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!  
 L:3739 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:296  
 L:3740 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:296 after pos.:0  
 L:3809 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!  
 L:3813 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:301  
 L:3814 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:301 after pos.:0  
 L:4471 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!  
 L:4475 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:348  
 L:4476 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:348 after pos.:0



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